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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/588,767 | 08/08/2006 | Guillaume Becard | 0509-1107 | 4666 |
| 466 | 7590 | 03/24/2010 | EXAMINER | |
| YOUNG & THOMPSON 209 Madison Street Suite 500 Alexandria, VA 22314 | | | PARA, ANNETTE H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1661 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 03/24/2010 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/588,767 | Applicant(s) BECARD ET AL. | |
| | Examiner ANNETTE H. PARA | Art Unit 1661 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) 31-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08082006</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION**Election/Restrictions**

Applicant's election with traverse of Group IX, wherein the specified agent is GR24 and the specified fungus is *Gigaspora rosea* in the reply filed on November 09, 2009 is acknowledged. The traversal is on the ground(s) that the Examiner has not demonstrated that the requirements for claim restriction have been met. In particular, 1) The inventions must be independent and distinct as claimed, and 2) there must be a serious burden on the examiner if restriction is required. The examiner has not met the second criterion because there is no evidence provided that there would be a serious search and examination burden if restriction were not required.

This is not found persuasive because there is, in fact, a serious burden on the Examiner because of the requirement to find art on the additional limitations in the restricted claims. The Examiner would be required to search specifically for art teaching, *Glomus intrardices*, GR7, Nijmegen-1, demethylsorgolactone, strigol, alectrol, sorgolactone, and orobanchol for example.

The requirement is still deemed proper and is therefore made FINAL.

Claims Pending

Claims 23-44 are pending. Claims 23-30 will be examined on the merits.

Information Disclosure Statement

The information disclosure statement(s) (IDS) filed on August 08, 2006 has been considered by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gianinazzi-Pearson et al. (In vitro Enhancement of Spore Germination .. Symbiosis, 7 1989 243-255) in view of Nagahashi et al. (Partial separation of root exudate components...Mycol. Res. 104 (12):1453-1464 December 2000) and Safir et al. (U.S. Patent 5,002,603 1991), and further in view of Mangnus et al. (J. Agric. Food Chem. 1992, 40, 1230-1235).

The claims are drawn to a method of treating *Gigaspora rosea* fungi comprising contacting said fungi with GR24 in at least an amount that is suitable for stimulating the development and/or growth of said fungi. Where the *Gigaspora rosea* fungi are in the form of spores, on mycorrhizated root fragments, on a constitutive root part of a plant capable of forming a symbiosis with AM fungi, on at least one whole host plant cultivated in a pot, or on at least one whole host plant cultivated in the field.

Gianinazzi-Pearson et al. teach treating spores of *Gigaspora* fungi with root exudates (Strigolactones in root exudates).

Gianinazzi-Pearson et al. fail to teach treating mycorrhizated root fragments, a constitutive root part of a plant capable of forming a symbiosis with AM fungi, a whole host plant cultivated in a pot, or a whole host plant cultivated in the field. Gianinazzi-Pearson et al. also fail to teach treating with strigol analogue GR24. Gianinazzi-Pearson et al. fail to teach *Gigaspora rosea* fungi.

However,

Nagahashi et al. teach treating *Gigaspora rosea* fungi with root exudates wherein the fungi are on roots, seedlings.

Safir et al. teach treating VAM fungi with root exudates on a plant in the field. (column 7) or in a pot (column 12).

Mangnus et al. teach strigol analogue GR24.

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It would have been obvious to modify the method of Gianinazzi-Pearson by using a strigolactone (strigol analogue GR24). One of ordinary skill in the art would have been motivated to use GR24 because it is a chemical analogue of strigolactones (root exudates) and because it is available commercially. One of ordinary skill in the art would have treat mycorrhizated root fragments, a constitutive root part of a plant capable of forming a symbiosis with *Gigaspora rosea* fungi, a whole host plant cultivated in a pot, or a whole host plant cultivated in the field fungi in view of the result obtained by Nagahashi et al. and Safir et al.

Thus, the invention as a whole was clearly *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Summary

No claim is allowed.

/Annette H. Para/

Primary Examiner, Art Unit 1661